

# PRODUCT INFORMATION

Product Type: PETRI DISHES 90mm

## Cat No. PD079 - BORDETELLA AGAR

### Intended Use:

Bordetella Agar highly selective and enriched medium, most notably used for the isolation of *Bordetella pertussis* (the causative agent of whooping cough) and *B. parapertussis* from clinical specimens such as nasopharyngeal swabs.

### Principle and Uses:

**Peptones, Beef Extract, Yeast Extract:** Provide essential nutrients, nitrogen, carbon, amino acids, and vitamins required for bacterial growth

**Charcoal and starch:** Absorb toxic substances and fatty acids that could inhibit *Bordetella* growth. This detoxification is essential for optimal recovery and growth.

**Nicotinic Acid:** An essential growth factor for *Bordetella* spp.

**Horse blood:** Supplies essential growth factors and neutralizes inhibitory substances; shown to be superior to sheep or human blood for *Bordetella* recovery.

**Cephalexin:** Suppresses most nasopharyngeal flora, especially gram-negative and some gram-positive bacteria, including penicillin-resistant staphylococci, some coliforms, and some strains of *Haemophilus influenzae* making the medium highly selective for *B. pertussis* and *B. parapertussis* for allowing their growth.

### Colony Appearance and Use

*Bordetella pertussis*: Small (1–2 mm), smooth, glistening, domed, grayish-white, round-convex colonies after 3–7 days. On charcoal agar, colonies are non-hemolytic and may appear slightly bluish or pearly against the charcoal-gray background. Suspicious colonies should be Gram-stained, using a 2-minutes safranin counterstain. Some pleomorphic cells may be seen, caused by the cephalexin in the medium. Confirm the identification.

**Other flora:** Most are inhibited, especially on charcoal agar with cephalexin.

### Procedure

1. Collect 2 per nasal swabs, one through each nostril, in the early stage of the illness.
2. If plates have been refrigerated, allow to return to room temperature before inoculation. Streak sample onto plate and incubate aerobically at  $35 \pm 20^\circ\text{C}$  in an inverted position (agar-side up) in a moist atmosphere, (60-70% humidity), for up to 6 days.

### Procedure Limitations

- It is recommended to use a charcoal based medium for the transport of the specimen. Stuart's transport medium or similar formulation media should not be used for *Bordetella*-containing specimens.
- Most nasopharyngeal flora are inhibited by cephalexin, but *P. aeruginosa* and fungi may grow through.

## Composition

`Lab-Lemco' powder - 10.0 g/L (Total Nitrogen 13.3 w/w, Amino Nitrogen 2.5 w/w, Sodium chloride 1.1 w/w)

Peptone - 10.0 g/L

Starch - 10.0 g/L

Charcoal bacteriological - 4.0 g/L

Sodium chloride - 5.0 g/L

Nicotinic acid - 0.001 g/L

Agar - 12.0 g/L

Cephalexin - 40 mg/L

Defibrinated Horse Blood - 100 ml/L

**Storage:** 2-8°C

**Appearance:** Opaque charcoal-gray

**pH Range:** 7.2 - 7.6

**Package contents:** 10 plates in a package

**Exp. Date:** Printed on label and on the item.

**Required materials not supplied:** Laboratory equipment as required.

**Warning and Precautions** - For professional use only. Follow good microbiological lab practices while handling specimens and culture. Do not use Petri dishes if they show evidence of microbial contamination, discoloration, drying, cracking, or other signs of deterioration. Avoid freezing and overheating. The Petri Dishes may be used / inoculated up to the expiration date and incubated for the recommended incubation times. After use and prior to discarding, specimen containers and all contaminated material, including the used culture media and contaminated culture containers, must be sterilized or incinerated by validated procedures. Since the nutritional requirements of organisms vary, some strains may be encountered that fail to grow or grow poorly on this medium.

If excessive moisture is observed, invert the bottom over an off-set lid and allow to air dry in order to prevent formation of a seal between the top and bottom of the plate during incubation. Storage Instructions: On receipt, store plates in the dark at 2–8 °C. Avoid freezing and overheating. Do not open until ready to use.

## Waste Disposal

After interpretation all plates should be destroyed by standard incineration methods.

## Performance Testing Results

**GPT:** Inoculum 10-100 cfu.

**Inhibitory properties:** Inoculum 10000 cfu.

Test	ATCC	Inoculum	Incubation Temp. (°C)	Incubation Cond	Reaction 1	
<i>Bordetella pertussis</i>	12742		33-37 °C	Aerobic, 4-5 days	Growth	Small, drop like glistening
<i>Escherichia coli</i>	25922		33-37 °C	Aerobic, 4-5 days	Partially inhibited	
<i>Proteus mirabilis</i>	4630		33-37 °C	Aerobic, 4-5 days	Partially Inhibited	
<i>Staphylococcus aureus</i>	25923		33-37 °C	Aerobic, 4-5 days	Inhibited	
<i>Enterococcus faecalis</i>	19433	10000 cfu	33-37 °C	Aerobic, 4-5 days	Partially inhibited	